

REMARKS

The Examiner's communication dated May 17, 2005 has been received and carefully considered. In conformance with the applicable statutory requirements, this paper constitutes a complete reply and/or a bona fide attempt to advance the application to allowance. Specifically, detailed arguments in support of patentability of all claims have been included. Reexamination and/or reconsideration of the application are respectfully requested.

Summary of the Office Action

Claims 1-10 and 14-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gilliland (U.S. Patent No. 5,540,371) in view of "Applicant's disclosure page 1 line 15 to page 3 line 29 and Figure 5."

Claims 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gilliland in view of "Applicant's disclosure page 1 line 15 to page 3 line 29 and Figure 5," and in further view of Blank et al. (U.S. Patent No. 6,427,894).

The Claims Distinguish Patentability Over the Reference(s) of Record

I. INDEPENDENT CLAIM 1 AND DEPENDENT CLAIMS 2-5

A. Background and Applicant's Argument

Claim 1 continues to call for a drive roller on each of two roller supports to include an outer surface "that defines a groove having an included angle between a pair of intersecting walls defining the groove that is about thirty degrees (30°) or greater and less than ninety degrees (90°)." As indicated in the preceding section, the Examiner rejected claim 1 over the combination of Gilliland and Applicant's disclosure. Specifically, the Examiner asserts that "[i]t would have been obvious to one of ordinary skill in the art ... to modify the feeding mechanism of Gilliland to include a housing and roller supports as suggested by the applicant's disclosure ... to provide support and to modify the included angle of the circumferential groove of Gilliland to include an included angle of at least [sic] 30 degrees and less than 90 degrees (30-60 degrees) as suggested by the disclosed prior art of Figure 5" *Office Action* at pg. 3. The Examiner further asserts that Gilliland as

modified by Applicant's disclosure teaches the feature of a pair of intersecting walls defining a groove. *Id.* at pg. 5.

Applicant respectfully disagrees. First, Applicant asserts that the limitation of claim 1 calling for a drive roller on each of two roller supports to include an outer surface that defines a groove having an included angle between a pair of intersecting walls defining the groove that is about thirty degrees (30°) or greater and less than ninety degrees (90°) is positively recited in claim 1 and not shown, or fairly suggested, by the references of record.

Second, Applicant asserts that the combination of Gilliland and Applicant's disclosure is improper, as there is not proper motivation to combine Applicant's disclosure with Gilliland.

B. Intersecting Walls Defining a Groove Recited in Claim 1 and Not Shown by the References of Record

To deal with the limitation of claim 1 calling for intersecting walls defining a groove, the Examiner asserts that the limitation is not recited in the rejected claims (i.e., claim 1) and asserts that, even if it (intersecting walls defining a groove) was recited, the limitation/feature is taught by Figure 5 of Applicant's disclosure.

1. Feature of Intersecting walls defining a groove recited in claim 1

The Examiner asserts that the "feature" (a pair of intersecting walls defining the groove) relied upon by Applicant in arguing the patentability of claim 1 is not recited in rejected claim 1. The Examiner is mistaken. Claim 1 recites, in full:

1. A wire feeding mechanism for advancing a continuous length of wire along a pathway, comprising:

a housing having two roller supports each rotatable about a corresponding axis transverse to a wire pathway, said roller supports being on opposite sides of said pathway and being driveably engaged with each other;

a drive roller on each of said roller supports for rotation therewith, said drive roller including an outer surface extending circumferentially about said corresponding axis that defines ***a groove having an included angle***

between a pair of intersecting walls defining the groove that is about thirty degrees (30°) or greater and less than ninety degrees (90°), said drive roller on each of said roller supports compressively contacting a continuous length of wire between said roller supports such that said wire is advanced along said pathway in response to rotation of said drive rollers.

(emphasis added). Thus, claim 1 calls for a groove having an included angle between a pair of intersecting walls and explicitly calls for the pair of intersecting walls to define the groove. It is disingenuous for the Examiner to maintain the position that claim 1 fails to recite a pair of intersecting walls defining the groove.

2. Intersecting walls defining a groove not shown in references of record

Applicant respectfully asserts that Gilliland, with reference to Figure 3B thereof, merely discloses a groove 35 defined in a drive roller 32 that is a flat-bottomed V-shaped groove with an inward taper of four degrees (4°) on each wall. *Gilliland* at col. 6, lines 51-53. Gilliland fails to disclose (i) a pair of intersecting walls defining a groove and (ii) a pair of intersecting walls defining a groove that is between about thirty degrees (30°) or greater and less than ninety degrees (90°). The inwardly tapering walls (no reference numeral) do not intersect one another to form groove 35. Without intersecting one another, the inwardly tapering walls cannot be said to define a groove that is between about thirty degrees (30°) or greater and less than ninety degrees (90°).

Adding Figure 5 of Applicant's disclosure to Gilliland fails to correct this deficiency. Figure 5 shows a driver roller arrangement wherein a first roller 122 includes a sharp-angled groove 120, which can be at an angle of between thirty and sixty degrees, and a second roller 124 having no groove. Thus, if the teachings of Figure 5 were added to Gilliland, Gilliland groove 34 would be modified to resemble Applicant's Figure 5 groove 120 and Gilliland groove 35 would be removed entirely (so that Gilliland drive roller 32A would resemble Applicant's Figure 5 driver roller 124). In contrast, claim 1 requires a drive roller on each of two roller supports (i.e., two drive rollers) to include an outer surface defining a groove. Accordingly, in claim 1, a groove defined by intersecting walls is provided on a drive roller and another groove defined by intersecting walls is provided on another opposed drive roller.

Assuming arguendo that the Examiner is contending that both grooves 34,35 of Gilliland should be modified to be like Applicant's Figure 5 groove 120, this would still fail.¹ Modifying both grooves 34,35 of Gilliland to be like groove 120 would create a set of drive rollers that would fail to advance a continuous length of wire. Applicant's disclosure specifically shows the wire 132 in Figure 5 having a centerline sitting below flat surface 134 (the surface in which groove 120 is formed) of drive roller 122. See *Application* at pg. 3, lines 19-22 and Figure 5. If both of Gilliland's drive rollers 32A,32B were modified to have grooves like groove 120, the sidewalls 126,128 of both of the modified grooves would fail to contact the wire and thus could not advance a continuous length of wire. Claim 1 recites that the drive roller on each of the roller supports (i.e., two drive rollers) compressively contacts the wire such that the same is advanced in response to rotation of the drive rollers, so even modifying Gilliland to include rollers each having grooves as shown in Figure 5 would still fail to teach or suggest the invention of claim 1.

C. Combination of Gilliland and Applicant's Figure 5 Improper

Applicant contends that one skilled in the art would not be motivated to combine the teachings of Gilliland with Figure 5 of Applicant's disclosure, particularly in the selective manner put forth by the Examiner. In fact, the teachings of Figure 5 and Gilliland are incongruous and teach away from one another.

1. No motivation to combine Gilliland and Applicant's Figure 5

The Examiner has provided no reference, or other evidence to support his conclusion that it would be obvious to one skilled in the art to modify Gilliland with Applicant's Figure 5, particularly in the selective manner advanced by the Examiner (i.e., taking one of two drive rollers from the Figure 5 one groove, two drive roller arrangement and using the one groove as both grooves in a two groove, two drive roller arrangement). Applicant asserts that the Examiner has impermissibly concluded that claim 1 is obvious without any legitimate support on the record and respectfully requests that, in accordance

¹ Applicant strenuously argues that such a selective combination of elements is unfair and well beyond what would be obvious to one skilled in the art. There is no motivation for the skilled person to take one drive roller 122 from an arrangement of two complementary drive rollers 122,124 and use the groove 120 of that one drive roller 122 to modify both of a pair of drive rollers 32A,32B in another drive roller arrangement 32.

with the obligations imposed under MPEP § 2144.03, the Examiner provide a reference of other suitable evidence showing that one skilled in the art would be motivated to modify the teachings of Gilliland with the teachings of Applicant's Figure 5.

As the Examiner is surely aware, a *prima facie* case of obviousness is not established absent proper motivation. Simply because the drive roller of Gilliland could be modified to include a pair of grooves such as the single groove shown in Figure 5, motivation to modify Gilliland to meet the limitations of claim 1 is not found. Moreover, accordingly to MPEP § 2144.01, the "fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness." Merely because the claimed elements are individually found in the prior art, it does not necessarily follow that it would be obvious to combine the elements from different prior art references. See *MPEP § 2141.01 citing Ex parte Levengood*, 28 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993). Consequently, absent a motivation to combine and modify Gilliland with Figure 5 of Applicant's disclosure, it is irrelevant that the elements and/or limitations may be individually or separately known in the prior art. Clearly, the Examiner is motivated to combine these teachings for no other reason than to arrive at the claimed invention of claim 1.

2. Teachings of Gilliland and Applicant's Figure 5 are incongruous and teach away from one another

Gilliland Figure 3B discloses a two groove, two drive roller arrangement 32 wherein a first drive roller 32A includes a first groove 35 and a second drive roller 32B, in opposed relation to the first drive roller 32A, includes a second groove 34. The grooves 34 and 35 appear to be identical. A wire is received in the grooves 34,35 to be advanced by the rollers 32A,32B as they are rotated. Applicant's Figure 5 discloses a one groove, two drive roller arrangement wherein a first drive roller 122 includes a groove 120 and a second drive roller 124 is flat (i.e., no groove). The flat drive roller 124 forces a wire 132 into the groove 120 such that its centerline is below an outer surface 132 of the drive roller 122. Rotation of the drive rollers 122,124 advances the wire 132 along a path.

Modifying the Gilliland arrangement such that its rollers 32A,32B each have a groove like groove 120 from Applicant's Figure 5 would create an inoperable arrangement. The wire received between such modified drive rollers would no longer be contacted in

such a way as to enable the drive rollers to advance the wire. More specifically, the depth of the groove of Applicant's Figure 5 is such that a centerline of the wire 132 is received below drive roller outer surface 134. Flat driver roller 124 maintains the wire 132 in the groove 120 and in contact with the walls 126, 128 defining the groove 120. Two opposed drive rollers, each with grooves like groove 120, would create too large an area for the wire and neither drive roller would force the wire into the walls forming the groove of the other drive roller. Accordingly, Applicant submits that the one groove and flat drive roller arrangement of Applicant's Figure 5 teaches away from the two groove arrangement of Gilliland.

D. Conclusion

For at least the reasons discussed in the preceding paragraphs, Applicant submits that claim 1 and claims 2-5 dependent therefrom distinguish patentably over the references of record.

II. INDEPENDENT CLAIM 6 AND DEPENDENT CLAIMS 7-13

A. Background

Claim 6 continues to call for a first drive roller to include a first drive roller groove extending circumferentially therearound and having a first drive roller included angle of at least about thirty degrees (30°) and less than ninety degrees (90°). Claim 6 further calls for a second drive roller to include a second drive roller groove extending circumferentially therearound and a having a second drive roller included angle of at least about thirty degrees (30°) and less than ninety degrees (90°). The Examiner rejected claim 6 over the combination of Gilliland's Figure 3B and Figure 5 of Applicant's disclosure.

B. Gilliland and Figure 5 Together Fail to Disclose or Fairly Suggest Claim 6

Applicant respectfully submits that amended claim 6 is patentably distinct over the references of record because those references, alone or in combination with Applicant's Figure 5, fail to disclose or fairly suggest the wire feeding mechanism of claim 6. More particularly, as already discussed herein, Gilliland discloses a drive roll arrangement 32

wherein two opposed drive rollers 32A,32B have opposed grooves 35,34 which are flat bottomed V-shaped grooves. The side walls of these flat bottomed V-shaped grooves 35,34 are said to include a four (4) degree taper. Thus, there is no disclosure of included angle in the drive rollers being at least about thirty degrees (30°) and less than ninety degrees (90°), as required by claim 6.

Adding Figure 5 of Applicant's disclosure to Gilliland still fails to disclose or fairly suggest the wire feeding mechanism of claim 6, which includes drive rollers having included angles that are at least about thirty degrees (30°) and less than ninety degrees (90°). As already discussed, Figure 5 shows a drive roller arrangement wherein a first drive roller 122 includes a groove 120 into which a wire 132 is forced by a second, flat drive roller 124 (i.e., a drive roller without a groove) such that a centerline of the wire 132 is below an outer surface 132 of the first drive roller 122. If the Examiner is asserting that the Figure 5 drive roller arrangement be imported to Gilliland, then only one drive roller would include a groove. In contrast, claim 6 calls for first and second drive rollers to include, respectively, first and second grooves.

If the Examiner is asserting that only the groove 120 of Applicant's Figure 5 be imported to both of the drive rollers 32A,32B of Gilliland, then the driver rollers 32A,32B would fail to be able to advance a continuous length of wire received in the modified roller's grooves, which is required by claim 6 (claim 6: "said first and second drive rollers positioned relative to one another such that a continuous length of wire received in said circumferential grooves between said first and second drive rollers is advanced along said passageway in response to rotation of said first and second drive rollers"). More specifically, the groove 120 of Applicant's Figure 5 is such that a wire, such as wire 132, received therein has its centerline received below an outer surface, such as surface 134, of the grooved drive roller. In the illustrated arrangement, a flat drive roller 134 is used to force the wire into the walls forming the groove so that the wire can be advanced upon rotation of the drive rollers. Two opposed drive rollers, such as 32A and 32B of Gilliland, each having grooves like groove 120 of Applicant's Figure 5 would fail to force a wire received therebetween into the opposed drive roller such that rotation of the drive rollers would fail to advance the wire.

C. The Combination of Gilliland and Applicant's Figure 5 is Improper

For the reasons already discussed at length, Applicant respectfully asserts that modifying Gilliland with the teachings of Applicant's Figure 5 is improper. First, motivation to combine these teachings is lacking and, second, the primary reference (Gilliland) and Figure 5 of Applicant's disclosure teach away from one another (i.e., teach away from being combined). All reasons presented by the Applicant for contending that the combination of Gilliland and Applicant's Figure 5 was improper in reference to claim 1 are expressly incorporated herein by reference and asserted as showing the impropriety of the Gilliland/Figure 5 combination as applied to claim 6.

Moreover, no separate statement of purported motivation to combine was provided by the Examiner in addition to that provided in reference to claim 1. In claim 1, the Examiner appears to assert that one skilled in the art would modify Gilliland with the teachings of Applicant's Figure 5 "to decrease the compressive forces of the wire, and to provide more contact with the wire to reduce slippage while reducing the amount of pressure to grip the wire." *Office Action* at pg. 3. Since no separate statement is provided with claim 6, Applicant presumes the Examiner is relying on this same statement as allegedly showing why one skilled in the art would modify Gilliland with the teachings of Applicant's Figure 5.

The Examiner's statement is not supported by the teachings of Gilliland and Applicant's Figure 5. As already discussed herein, adding grooves 120 (from Figure 5) to the drive rollers 32A, 32B (from Gilliland) would not serve to decrease the compressive forces needed to advance the wire, nor would such an arrangement serve to provide more contact with the wire to reduce slippage while reducing the amount of pressure needed to grip the wire. Rather, the wire would no longer be appropriately gripped by the drive rollers. Too much space would be provided between opposed grooves 120 and thus the wire would not be advanced by opposed drive rollers including grooves 120. Thus, the Examiner's provision of a purported motivation to combine is specious and fails upon closer inspection.

D. Conclusion

For at least the reasons discussed in the preceding paragraphs, Applicant submits that claim 6 and claims 7-13 dependent therefrom distinguish patentably over the references of record.

III. INDEPENDENT CLAIM 14 AND DEPENDENT CLAIMS 15-20

A. Background

Claim 14, which was amended in Applicant's Amendment submitted on April 13, 2005 and apparently received on April 18, 2005, calls for first and second drive rollers to each include an outer surface extending circumferentially therearound, which has a first side wall and a second side wall extending radially thereinto that together define a groove. Claim 14 further calls for the first side wall to intersect the second side wall and to be oriented at an angle less than ninety degrees (90°) relative to the second side wall. As discussed in the Summary of the Office Action section, the Examiner rejected claim 14 over Gilliland in view of Applicant's disclosure. In discussing claim 14 in the most recent Office Action, the Examiner appears to completely ignore the limitations calling for the side walls to extend radially into outer surfaces of the drive rollers and to intersect one another. *See Office Action* at pg. 3-4.

B. The Combination Advanced by the Examiner Fails to Show or Fairly Suggest Each and Every Limitation of Claim 14

In view of claim 14 calling for first and second drive rollers to each include an outer surface having first and second sidewalls extending radially thereinto that together define a groove with the first side wall intersecting the second side wall, Applicant asserts that claim 14 is patentably distinct over the references of record. The Office Action wholly fails to address this limitation. Moreover, the references applied against claim 14, namely Gilliland and Applicant's Figure 5, fail to disclose opposed drive rollers each having a groove defined by a first radially extending side wall intersecting a second radially extending side wall. Accordingly, Applicant submits that each and every limitation of claim 14 is not shown or fairly suggested by the references applied by the Examiner against claim 14.

C. Gilliland and Figure 5 Combination Improper

Applicant respectfully asserts that combining Gilliland and the teachings of Applicant's Figure 5 is improper. In particular, motivation to combine these teachings is lacking. The purported motivation provided by the Examiner fails because the combination would not function as claimed by the Examiner (i.e., the combination could not be used to advance wire). Moreover, because the combination could not be used to advance wire, one primary purpose of a wire feeding mechanism (the subject matter claimed in claim 14), Applicant asserts that the "references" teach away from one another. All reasons presented above by the Applicant supporting Applicant's assertion that the combination of Gilliland and Applicant's Figure 5 was improper are expressly incorporated herein by reference and asserted as showing the improperness of the Gilliland/Figure 5 combination as applied to claim 14.

D. Conclusion

For at least the reasons discussed in the preceding paragraphs, Applicant submits that claim 14 and claims 15-20 dependent therefrom distinguish patentably over the references of record.

IV. DEPENDENT CLAIMS 4, 8 and 18

Claims 4, 8 and 18, respectively dependent from independent claims 1, 6 and 14, each call for a centerline of a continuous length of wire to be above outer surfaces of opposed drive rollers used to advance the wire. The Examiner asserts that "Gilliland discloses where the centerline of the wire 11 is above the outer surface of the drive roller 32A, 32B." *Office Action* at pg. 3 and pg. 4. The problem with the Examiner's position is that he fails to account for the modification he used to reject independent claims 1, 6 and 14. When the Examiner uses Figure 5 from Applicant's disclosure to reject claims 1, 6 and 14, the rollers 32A, 32B of Gilliland include grooves 120 (according the Examiner's combination). If rollers 32A, 32B include grooves 120, then a wire supported therebetween cannot have its centerline above outside surfaces of both drive rollers and be driven by the drive rollers.

Accordingly, Applicant submits that these claims are allowable not only because they depend from allowable independent claims, but for at least this additional reason.


CONCLUSION

All formal and informal matters having been addressed, it is respectfully submitted that this application is in condition for allowance. It is believed that the included arguments supporting patentability over the references of record should be sufficient to persuade the Examiner that the application is in condition for allowance. An early notice of allowance is earnestly solicited.

Respectfully submitted,

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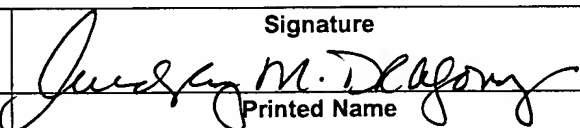
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